

## ABSTRACT OF THE DISCLOSURE

A porosimeter includes a pressurizable sample chamber with a membrane located directly below the sample. The membrane pores have a smaller size than any of the sample pores of interest. A fluid reservoir is located below the membrane such that the reservoir and the membrane form a seal. In operation, as fluid enters the fluid reservoir through the membrane or a reservoir inlet, fluid already in the fluid reservoir is displaced through a reservoir exit. An inlet in a fluid displacement reservoir receives the fluid displaced from the fluid reservoir. A recirculation line receives fluid from the exit of the fluid displacement reservoir and circulates the fluid into the inlet of the fluid reservoir. In a preferred embodiment, a pump recirculates the fluid through the recirculation line. Fluid returned to the reservoir circulates over the bottom of the membrane, and sweeps air bubbles out of the reservoir.